

Claims

1. A ligand that specifically binds to the GHRH receptor of SEQ ID NO: 4.
2. A nucleic acid sequence comprising SEQ ID NO: 6.
3. A polypeptide comprising the amino acid sequence of SEQ ID NO: 2, a
5 biologically active fragment thereof, or a polypeptide that differs from SEQ ID NO: 2
by one or more conservative amino acid substitutions yet retains its ability to
stimulating second messenger signaling at the cloned chicken GHRH receptor.
4. The polypeptide of claim 3 wherein the polypeptide comprises the
amino acid sequence of SEQ ID NO: 2.
- 10 5. A polypeptide comprising the amino acid sequence of SEQ ID NO: 5
6. The polypeptide of claim 5 wherein the polypeptide comprises the
amino acid sequence of SEQ ID NO: 4
7. A chicken GHRH receptor comprising the amino acid sequence of
SEQ ID NO: 5 or an amino acid sequence that differs from SEQ ID NO: by 1-3
15 conservative amino acid substitutions.
8. A polypeptide mimetic or protein derivative of the chicken GHRH
receptor of SEQ ID NO: 7.
9. A method of enhancing feed utilization in an avian species comprising
the step of administering a GHRH analog or derivative of said species wherein the
20 analog or derivative is an agonist or antagonist of the GHRH receptor of SEQ ID NO: 4.
10. A method of enhancing the growth and production of lean muscle mass
in an avian species comprising the step of administering a GHRH analog or
derivative to said species wherein the analog or derivative is an agonist or antagonist
of the GHRH receptor of SEQ ID NO: 4.
- 25 11. A method of enhancing feed utilization in an avian species comprising
the step of administering a GHRH polypeptide comprising the amino acid sequence of
SEQ ID NO: 2.
12. A method of enhancing the growth and production of lean muscle mass
in an avian species comprising the step of administering a GHRH polypeptide
30 comprising the amino acid sequence of SEQ ID NO: 2.
13. A method of enhancing feed utilization in an avian species comprising
the step of administering a compound that up-regulates the expression of the GHRH

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receptor of SEQ ID NO: 4.

14. A ligand that interacts with the GHRH receptor of SEQ ID NO: 4 and stimulates second messenger signaling at the chicken GHRH receptor.

5 ~~15~~¹⁶. A nucleic acid sequence encoding the chicken GHRH receptor, said sequence comprising the nucleic acid sequence of SEQ ID NO: 3.

~~16~~¹⁷. A transgenic avian species comprising a nucleic acid sequence encoding the protein of claim 3.

~~17~~¹⁸. A transgenic avian species comprising a nucleic acid sequence encoding the protein of claim 7.

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Rule 126

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